

WHAT IS CLAIMED IS:

1. A deposition system which supplies a source gas and a purge gas alternately for deposition, comprising:

a deposition chamber;

a substrate holding unit which holds a substrate in the deposition chamber;

a source gas supply unit which supplies the source gas to the deposition chamber;

a reactive gas supply unit which supplies a reactive gas to the deposition chamber;

a purge gas supply unit which supplies the purge gas to the deposition chamber;

an exhaust unit which exhausts the source gas, the reactive gas, and the purge gas from the deposition chamber;

a first heating unit which heats the substrate arranged in the deposition chamber to maintain the same to a predetermined temperature; and

a second heating unit which heats the substrate arranged in the deposition chamber rapidly.

2. The deposition system according to claim 1, wherein the first heating unit and the second heating unit are opposed to each other with the substrate interposed therebetween, so that the first heating unit heats the substrate from the backside and the second heating unit heats the substrate from the

surface.

3. The deposition system according to claim 1, wherein the second heating unit is an RTP (Rapid Thermal Processing) unit.

4. The deposition system according to claim 1, wherein the second heating unit is arranged outside the deposition chamber.

5. The deposition system according to claim 1, wherein the first heating unit is a heater formed on a substrate holding surface of the substrate holding unit.

6. The deposition system according to claim 1, wherein the substrate holding unit has a moving mechanism which moves the substrate in position so that the distance between the substrate and the second heating unit can be adjusted by an operation from outside the deposition chamber without opening the deposition chamber.

7. The deposition system according to claim 1, further comprising an annealing gas introducing unit which introduces an annealing gas into the deposition chamber.

8. The deposition system according to claim 6, further comprising an annealing gas introducing unit which introduces an annealing gas into the deposition chamber, and wherein when

the substrate is put closer to the second heating unit by the moving mechanism, the substrate or the substrate holding unit sections the deposition chamber into a first chamber having the annealing gas introducing unit and a second chamber having the source gas supply unit and the reactive gas supply unit so that the surface of the substrate is exposed to the first chamber.

9. The deposition system according to claim 6, further comprising a control unit which controls the operation of the second heating unit and the moving mechanism, the control unit being configured to start heating the substrate by using the second heating unit after the substrate is put closer to the second heating unit by the moving mechanism.

10. The deposition system according to claim 6, further comprising:

an annealing gas introducing unit which introduces an annealing gas to the deposition chamber; and

a control unit which controls the operation of the second heating unit, the annealing gas introducing unit, and the moving mechanism, and wherein

the control unit starts heating the substrate by using the second heating unit and introduces the annealing gas to the deposition chamber from the annealing gas introducing unit when the substrate is put closer to the second heating unit by

the moving mechanism.

11. The deposition system according to claim 9, wherein the exhaust unit is also controlled by the control unit so that it can exhaust air from the entire deposition chamber when the substrate is put away from the second heating unit by the moving mechanism.